

What is claimed is:

1.

A method of treating thrombosis in animals comprising the steps of:
introducing a pharmaceutical composition to a thrombus site by intravenous injection, said pharmaceutical composition comprising a plurality of gas filled microbubbles with a diameter of from about .1 to 10 microns and a pharmaceutically acceptable carrier, and thereafter;
applying ultrasound to said site.

2.

The method of claim 1 wherein said gas is an insoluble gas.

3.

The method of claim 1 wherein said microbubbles are protein coated.

4.

The method of claim 1 wherein said carrier is a 5% solution of dextrose.

5.

The method of claim 3 wherein said protein coated microspheres are albumin coated microspheres.

6.

The method of claim 2 wherein said insoluble gas is selected from the group consisting of perfluoromethane, perfluoroethane, perfluoropropane, perfluorobutane and perfluoropentane.

7.

The method of claim 6 wherein said perfluorocarbon gas is perfluorobutane.

8.

The method of claim 6 wherein said perfluorocarbon gas is perfluoropropane.

9.

The method of claim 1 further comprising the following steps:

mixing an aqueous solution comprising 2% to about 10% by weight of human serum albumin diluted about two fold to about eight fold with 5% to 50% by weight dextrose; and

exposing said solution to a sonication horn to generate stable microbubbles from about .1 to 10 microns in diameter, to create said pharmaceutical composition.

10.

The method of claim 7 wherein said dilution of albumin with dextrose is a 3-fold dilution.

11.

The method of claim 7 wherein said human serum albumin is a 5% by weight solution.

12.

The method of claim 7 wherein said dextrose is a 5% by weight solution.

13.

A method for treating thrombosis in animals comprising:

(a) obtaining a pharmaceutical composition which consists essentially of:

 a solution of stable microbubbles approximately .1 to 10 microns in diameter, and a pharmaceutically acceptable carrier;

140

- (b) introducing said pharmaceutical composition to said thrombus; and
- (c) exposing said pharmaceutical composition and said thrombus to an ultrasound field for a time sufficient to lyse said thrombus.

14.

The method of claim 13 wherein said step of introducing said agent to said thrombus is by intravenous injection.

15.

The method of claim 13 wherein said dextrose is a 5% solution.

16.

The method of claim 13 wherein said protein coated microbubbles are albumin coated microspheres.

17.

The method of claim 13 wherein said perfluorocarbon gas is selected from the group consisting of perfluoromethane, perfluoroethane, perfluoropropane, perfluorobutane and perfluoropentane.

18.

The method of claim 17 wherein said perfluorocarbon gas is perfluorobutane.

19.

The method of claim 17 wherein said perfluorocarbon gas is perfluoropropane.

20.

The method of claim 13 wherein said further comprising the following steps:
mixing an aqueous solution comprising 2% to about 10% by weight of human serum albumin diluted about two fold to about eight fold with 5% to 50% by weight dextrose; and
exposing said solution to a sonication horn to create cavitation at particulate sites in said solution generating stable microspheres from about .1 to 10 microns in diameter, to form said pharmaceutical composition.

21.

The method of claim 20 wherein said dilution of albumin with dextrose is a 3-fold dilution.

22.

The method of claim 18 wherein said human serum albumin is a 5% by weight solution.

23.

The method of claim 20 wherein said dextrose is a 5% by weight solution.

24.

A method for lysing a thrombus in an animal comprising:

introducing a pharmaceutical composition to said animal by intravenous injection near a thrombus site, said pharmaceutical composition comprising a microbubble ultrasound contrast agent, and thereafter;

applying ultrasound to said site.

25.

A method for lysing a thrombus in an animal comprising:

introducing a pharmaceutical composition to said animal by intravenous injection near a thrombus site, said pharmaceutical composition comprising a microbubble ultrasound contrast agent, and thereafter;

applying ultrasound to said site.